



# SEQUENCE LISTING

<110> Field, Loren J.  
Tsai, Shih-Chong

<120> P193 PROTEINS AND NUCLEIC ACIDS, AND USES THEREOF

<130> IU99-PCT

<140> Not Yet Known

<141> 2000-08-23

<150> 60/150,266

<151> 1999-08-23

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<170> PatentIn Ver. 2.1

<210> 1

<211> 5217

<212> DNA

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<221> CDS

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590

595

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gac cgt ctc ctg ggc gtg gtc tcg agc tgg ctg gag ggg gcc gtg ctg  
3953  
Asp Arg Leu Leu Gly Val Val Ser Ser Trp Leu Glu Gly Ala Val Leu  
1275 1280 1285

gag cag atc ggt ccc tgc ttc ccc aac cgc ctc ccc cag cag atg ttg  
4001  
Glu Gln Ile Gly Pro Cys Phe Pro Asn Arg Leu Pro Gln Gln Met Leu  
1290 1295 1300 1305

cag agc ctg agc acc tct aag gag ctg cag cgc cag ttc cac gtc tac  
4049  
Gln Ser Leu Ser Thr Ser Lys Glu Leu Gln Arg Gln Phe His Val Tyr  
1310 1315 1320

cag ctc cag cag ctg gat cag gaa ctc cta aag ctg gag gat aca gag  
4097  
Gln Leu Gln Gln Leu Asp Gln Glu Leu Leu Lys Leu Glu Asp Thr Glu  
1325 1330 1335

aag aaa ata cag gtg ggc ctt ggg gcc agt ggc aag gag cac aag agc  
4145  
Lys Lys Ile Gln Val Gly Leu Gly Ala Ser Gly Lys Glu His Lys Ser  
1340 1345 1350

gag aag gaa gag gaa gct ggg gca gca gca gtg gtg gat gtg gcg gag  
4193  
Glu Lys Glu Glu Glu Ala Gly Ala Ala Ala Val Val Asp Val Ala Glu  
1355 1360 1365

gga gag gag gaa gag gag gag aat gag gac ctc tac tat gaa ggg gca  
4241  
Gly Glu Glu Glu Glu Glu Glu Asn Glu Asp Leu Tyr Tyr Glu Gly Ala  
1370 1375 1380 1385

atg cca gaa gtg tct gtg ctt gtc ctg tcc cga cac tcc tgg cct gtt  
4289  
Met Pro Glu Val Ser Val Leu Val Leu Ser Arg His Ser Trp Pro Val  
1390 1395 1400

gcc tca atc tgc cac aca ctg aac ccc aga acc tgc ctg ccc tcc tac  
4337  
Ala Ser Ile Cys His Thr Leu Asn Pro Arg Thr Cys Leu Pro Ser Tyr  
1405 1410 1415

ctg agg ggc act ttg aac aga tac tcc aac ttc tac aac aag agt cag  
4385  
Leu Arg Gly Thr Leu Asn Arg Tyr Ser Asn Phe Tyr Asn Lys Ser Gln  
1420 1425 1430

agc cac cct gcc ctt gag cga ggc tca cag agg cga ctg cag tgg acg  
4433

Ser His Pro Ala Leu Glu Arg Gly Ser Gln Arg Arg Leu Gln Trp Thr  
 1435 1440 1445  
 tgg ctg ggc tgg gct gag ctg cag ttt ggg aac cag acc ctg cat gtg  
 4481  
 Trp Leu Gly Trp Ala Glu Leu Gln Phe Gly Asn Gln Thr Leu His Val  
 1450 1455 1460 1465  
 tcc acc gtg cag atg tgg cta ctg ctg tat ctc aac gac ctg aag gcg  
 4529  
 Ser Thr Val Gln Met Trp Leu Leu Leu Tyr Leu Asn Asp Leu Lys Ala  
 1470 1475 1480  
 gtc tct gtg gag agt ctg ctg gcg ttc tca ggg ctc tcc gca gac atg  
 4577  
 Val Ser Val Glu Ser Leu Leu Ala Phe Ser Gly Leu Ser Ala Asp Met  
 1485 1490 1495  
 ctc aat cag gcg att ggg ccc ctc acc tct tca aga ggc ccc ctg gac  
 4625  
 Leu Asn Gln Ala Ile Gly Pro Leu Thr Ser Ser Arg Gly Pro Leu Asp  
 1500 1505 1510  
 ctt cac gag caa aag gat ata cca gga ggg gtc ctc aag att cga gat  
 4673  
 Leu His Glu Gln Lys Asp Ile Pro Gly Gly Val Leu Lys Ile Arg Asp  
 1515 1520 1525  
 ggc agc aag gaa ccc agg tog aga tgg gac att gtg cgg ctc atc cca  
 4721  
 Gly Ser Lys Glu Pro Arg Ser Arg Trp Asp Ile Val Arg Leu Ile Pro  
 1530 1535 1540 1545  
 cct cag aag tac ctg caa gct gag ggt gaa gac ggc cag aac ttg gag  
 4769  
 Pro Gln Thr Tyr Leu Gln Ala Glu Gly Glu Asp Gly Gln Asn Leu Glu  
 1550 1555 1560  
 aag aga cgg aat ctt ctg aac tgc ctc atc gtc cga atc ctc aag gcc  
 4817  
 Lys Arg Arg Asn Leu Leu Asn Cys Leu Ile Val Arg Ile Leu Lys Ala  
 1565 1570 1575  
 cat gga gat gag ggg ctg cac att gac cag ctt gtc tgt ctg gtg ctg  
 4865  
 His Gly Asp Glu Gly Leu His Ile Asp Gln Leu Val Cys Leu Val Leu  
 1580 1585 1590  
 gag gct tgg cag aag ggc ccg tgt cct ccc agg ggt ttg gtc agc agc  
 4913  
 Glu Ala Trp Gln Lys Gly Pro Cys Pro Pro Arg Gly Leu Val Ser Ser  
 1595 1600 1605  
 ctt ggt aag ggg tct gca tgc agc agc act gac gtc ctc tcc tgc atc  
 4961  
 Leu Gly Lys Gly Ser Ala Cys Ser Ser Thr Asp Val Leu Ser Cys Ile  
 1610 1615 1620 1625  
 cta cac ctc ctg ggc aag ggc acg ctg aga cgc cat gac gac cgg ccc  
 5009  
 Leu His Leu Leu Gly Lys Gly Thr Leu Arg Arg His Asp Asp Arg Pro  
 1630 1635 1640  
 cag gtg ctg tcc tat gca gtc cct gtg act gtc atg gag cct cac act  
 5057  
 Gln Val Leu Ser Tyr Ala Val Pro Val Thr Val Met Glu Pro His Thr

1645

1650

1655

gag tcc ctg aac cca ggc tcc tca ggc ccc aac cca ccc etc acc ttc  
5105

Glu Ser Leu Asn Pro Gly Ser Ser Gly Pro Asn Pro Pro Leu Thr Phe  
1660 1665 1670

cat acc cta cag att cgc tcc egg ggt gtg ccc tat gcc tcc tgc act  
5153

His Thr Leu Gln Ile Arg Ser Arg Gly Val Pro Tyr Ala Ser Cys Thr  
1675 1680 1685

gcc acc cag agc ttc tct acc ttc cgg tag ccctagactt ggggtcaggg  
5203

Ala Thr Gln Ser Phe Ser Thr Phe Arg  
1690 1695

gaaggtagag ctggagcttt tacagaaatt aaacccaaga gtttgattat  
5253

&lt;210&gt; 4

&lt;211&gt; 1698

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4

Met Val Gly Glu Leu Arg Tyr Arg Glu Phe Arg Val Pro Leu Gly Pro  
1 5 10 15

Gly Leu His Ala Tyr Pro Asp Glu Leu Ile Arg Gln Arg Val Gly His  
20 25 30

Asp Gly His Pro Glu Tyr Gln Ile Arg Trp Leu Ile Leu Arg Arg Gly  
35 40 45

Asp Glu Gly Asp Gly Gly Ser Gly Gln Val Asp Cys Lys Ala Glu His  
50 55 60

Ile Leu Leu Trp Met Ser Lys Asp Glu Ile Tyr Ala Asn Cys His Lys  
65 70 75 80

Met Leu Gly Glu Asp Gly Gln Val Ile Gly Pro Ser Gln Glu Ser Ala  
85 90 95

Gly Glu Val Gly Ala Leu Asp Lys Ser Val Leu Glu Glu Met Glu Thr  
100 105 110

Asp Val Lys Ser Leu Ile Gln Arg Ala Leu Arg Gln Leu Glu Glu Cys  
115 120 125

Val Gly Thr Ile Pro Pro Ala Pro Leu Leu His Thr Val His Val Leu  
130 135 140

Ser Ala Tyr Ala Ser Ile Glu Pro Leu Thr Gly Val Phe Lys Asp Pro  
145 150 155 160

Arg Val Leu Asp Leu Leu Met His Met Leu Ser Ser Pro Asp Tyr Gln  
165 170 175

Ile Arg Trp Ser Ala Gly Arg Met Ile Gln Ala Leu Ser Ser His Asp  
180 185 190

Ala Gly Thr Arg Thr Gln Ile Leu Leu Ser Leu Ser Gln Gln Glu Ala  
195 200 205

Ile Glu Lys His Leu Asp Phe Asp Ser Arg Cys Ala Leu Leu Ala Leu  
210 215 220

Phe Ala Gln Ala Thr Leu Ser Glu His Pro Met Ser Phe Glu Gly Ile  
225 230 235 240

Gln Leu Pro Gln Val Pro Gly Arg Val Leu Phe Ser Leu Val Lys Arg  
245 250 255

Tyr Leu His Val Thr Ser Leu Leu Asp Gln Leu Asn Asp Ser Ala Ala  
260 265 270

Glu Pro Gly Ala Gln Asn Thr Ser Ala Pro Glu Glu Leu Ser Gly Glu  
275 280 285

Arg Gly Gln Leu Glu Leu Glu Phe Ser Met Ala Met Gly Thr Leu Ile  
290 295 300

Ser Glu Leu Val Gln Ala Met Arg Trp Asp Gln Ala Ser Asp Arg Pro

305	Arg	Ser	Ser	Ala	Arg	Ser	Pro	Gly	Ser	Ile	Phe	Gln	Pro	Gln	Leu	Ala	320
				325						330							335
Asp	Val	Ser	Pro	Gly	Leu	Pro	Ala	Ala	Gln	Ala	Gln	Pro	Ser	Ser	Phe	Arg	
			340					345									350
Arg	Ser	Arg	Arg	Phe	Arg	Pro	Arg	Ser	Glu	Phe	Ala	Ser	Ser	Gly	Asn	Thr	
			355					360						365			
Tyr	Ala	Leu	Tyr	Val	Arg	Asp	Thr	Leu	Gln	Pro	Gly	Met	Arg	Val	Arg		
			370					375									380
Met	Leu	Asp	Asp	Tyr	Glu	Glu	Ile	Ser	Ala	Gly	Asp	Glu	Gly	Glu	Phe		
			385					390									400
Arg	Gln	Ser	Asn	Asn	Gly	Val	Pro	Pro	Val	Gln	Val	Phe	Trp	Glu	Ser		
			405														415
Thr	Gly	Arg	Thr	Tyr	Trp	Val	His	Trp	His	Met	Leu	Glu	Ile	Leu	Gly		
			420					425									430
Phe	Glu	Glu	Asp	Ile	Glu	Asp	Met	Val	Glu	Ala	Asp	Glu	Tyr	Gln	Gly		
			435					440									445
Ala	Val	Ala	Ser	Arg	Val	Leu	Gly	Arg	Ala	Leu	Pro	Ala	Trp	Arg	Trp		
			450					455									460
Arg	Pro	Met	Thr	Glu	Leu	Tyr	Ala	Val	Pro	Tyr	Val	Leu	Pro	Glu	Asp		
			465					470									480
Glu	Asp	Thr	Glu	Glu	Cys	Glu	His	Leu	Thr	Leu	Ala	Glu	Trp	Trp	Glu		
			485														495
Leu	Leu	Phe	Phe	Ile	Lys	Lys	Leu	Asp	Gly	Pro	Asp	His	Gln	Glu	Val		
			500					505									510
Leu	Gln	Ile	Leu	Gln	Glu	Asn	Leu	Asp	Gly	Glu	Ile	Leu	Asp	Asp	Glu		
			515					520									525
Ile	Leu	Ala	Glu	Leu	Ala	Val	Pro	Ile	Glu	Leu	Ala	Gln	Asp	Leu	Leu		
			530					535									540
Leu	Thr	Leu	Pro	Gln	Arg	Leu	Asn	Asp	Ser	Ala	Leu	Arg	Asp	Leu	Ile		
			545					550									560
Asn	Cys	His	Val	Tyr	Lys	Lys	Tyr	Gly	Pro	Glu	Ala	Leu	Ala	Gly	Asn		
			565														575
Gln	Ala	Tyr	Pro	Ser	Leu	Leu	Glu	Ala	Gln	Glu	Asp	Val	Leu	Leu	Leu		
			580					585									590
Asp	Ala	Gln	Ala	Gln	Ala	Lys	Asp	Ser	Glu	Asp	Ala	Ala	Lys	Val	Glu		
			595					600									605
Ala	Lys	Glu	Pro	Pro	Ser	Gln	Ser	Pro	Asn	Thr	Pro	Leu	Gln	Arg	Leu		
			610					615									620
Val	Glu	Gly	Tyr	Gly	Pro	Ala	Gly	Lys	Ile	Leu	Leu	Asp	Leu	Glu	Gln		
			625					630									640
Ala	Leu	Ser	Ser	Glu	Gly	Thr	Gln	Glu	Asn	Lys	Val	Lys	Pro	Leu	Leu		
			645														655
Leu	Gln	Leu	Gln	Arg	Gln	Pro	Gln	Pro	Phe	Leu	Ala	Leu	Met	Gln	Ser		
			660					665									670
Leu	Asp	Thr	Pro	Glu	Thr	Asn	Arg	Thr	Leu	His	Leu	Thr	Val	Leu	Arg		
			675					680									685
Ile	Leu	Lys	Gln	Leu	Val	Asp	Phe	Pro	Glu	Ala	Leu	Leu	Leu	Pro	Trp		
			690					695									700
His	Glu	Ala	Val	Asp	Ala	Cys	Met	Ala	Cys	Leu	Arg	Ser	Pro	Asn	Thr		
			705					710									720
Asp	Arg	Glu	Val	Leu	Gln	Glu	Leu	Ile	Phe	Phe	Leu	His	Arg	Leu	Thr		
			725														735
Ser	Val	Ser	Arg	Asp	Tyr	Ala	Val	Val	Leu	Asn	Gln	Leu	Gly	Ala	Arg		
			740					745									750
Asp	Ala	Ile	Ser	Lys	Ala	Leu	Glu	Lys	His	Leu	Gly	Lys	Leu	Glu	Leu		
			755					760									765
Ala	Gln	Glu	Leu	Arg	Asp	Met	Val	Phe	Lys	Cys	Glu	Lys	His	Ala	His		
			770					775									780
Leu	Tyr	Arg	Lys	Leu	Ile	Thr	Asn	Ile	Leu	Gly	Gly	Cys	Ile	Gln	Met		
			785					790									800
Val	Leu	Gly	Gln	Ile	Glu	Asp	His	Arg	Arg	Thr	His	Arg	Pro	Ile	Asn		
			805														815
Ile	Pro	Phe	Phe	Asp	Val	Phe	Leu	Arg	Tyr	Leu	Cys	Gln	Gly	Ser	Ser		
			820					825									830
Val	Glu	Val	Lys	Glu	Asp	Lys	Cys	Trp	Glu	Lys	Val	Glu	Val	Ser	Ser		





1365	1370	1375
Asn Glu Asp Leu Tyr Tyr Glu Gly Ala Met Pro Glu Val Ser Val Leu		
1380	1385	1390
Val Leu Ser Arg His Ser Trp Pro Val Ala Ser Ile Cys His Thr Leu		
1395	1400	1405
Asn Pro Arg Thr Cys Leu Pro Ser Tyr Leu Arg Gly Thr Leu Asn Arg		
1410	1415	1420
Tyr Ser Asn Phe Tyr Asn Lys Ser Gln Ser His Pro Ala Leu Glu Arg		
1425	1430	1435
Gly Ser Gln Arg Arg Leu Gln Trp Thr Trp Leu Gly Trp Ala Glu Leu		
1445	1450	1455
Gln Phe Gly Asn Gln Thr Leu His Val Ser Thr Val Gln Met Trp Leu		
1460	1465	1470
Leu Leu Tyr Leu Asn Asp Leu Lys Ala Val Ser Val Glu Ser Leu Leu		
1475	1480	1485
Ala Phe Ser Gly Leu Ser Ala Asp Met Leu Asn Gln Ala Ile Gly Pro		
1490	1495	1500
Leu Thr Ser Ser Arg Gly Pro Leu Asp Leu His Glu Gln Lys Asp Ile		
1505	1510	1515
Pro Gly Gly Val Leu Lys Ile Arg Asp Gly Ser Lys Glu Pro Arg Ser		
1525	1530	1535
Arg Trp Asp Ile Val Arg Leu Ile Pro Pro Gln Thr Tyr Leu Gln Ala		
1540	1545	1550
Glu Gly Glu Asp Gly Gln Asn Leu Glu Lys Arg Arg Asn Leu Leu Asn		
1555	1560	1565
Cys Leu Ile Val Arg Ile Leu Lys Ala His Gly Asp Glu Gly Leu His		
1570	1575	1580
Ile Asp Gln Leu Val Cys Leu Val Leu Glu Ala Trp Gln Lys Gly Pro		
1585	1590	1595
Cys Pro Pro Arg Gly Leu Val Ser Ser Leu Gly Lys Gly Ser Ala Cys		
1605	1610	1615
Ser Ser Thr Asp Val Leu Ser Cys Ile Leu His Leu Leu Gly Lys Gly		
1620	1625	1630
Thr Leu Arg Arg His Asp Asp Arg Pro Gln Val Leu Ser Tyr Ala Val		
1635	1640	1645
Pro Val Thr Val Met Glu Pro His Thr Glu Ser Leu Asn Pro Gly Ser		
1650	1655	1660
Ser Gly Pro Asn Pro Pro Leu Thr Phe His Thr Leu Gln Ile Arg Ser		
1665	1670	1675
Arg Gly Val Pro Tyr Ala Ser Cys Thr Ala Thr Gln Ser Phe Ser Thr		
1685	1690	1695
Phe Arg		